

Claims

1. Method of determining a colour formula for matching a selected colour measured with an electronic imaging device, which method comprises the following steps:
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- a) an electronic imaging device is calibrated by measuring the colour signals of at least two calibration colours, the colorimetric data of each of the calibration colours being known;
- b) at the same time or in a next step the selected colour is measured with the aid of the electronic imaging device;
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- c) using a mathematical model, parameters are calculated for converting the measured colour signals of the calibration colours to the known colorimetric data;
- d) using the mathematical model and the calculated parameters, the colour signals of the measured selected colour are converted to colorimetric data; and
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- e) using a databank, the colour formula of which the colorimetric data most closely matches the calculated colorimetric data of the measured selected colour is determined.
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2. A method according to claim 1, characterised in that the calibration colours are distributed over the entire colorimetric colour space.
3. A method according to claim 2, characterised in that the calibration colours are distributed in the vicinity of the selected colour.
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4. A method according to any of claims 1-3, characterised in that the calibration colours in the vicinity of the selected colour are given greater weight when calculating the model parameters.
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5. A method according to any of claims 1-3, characterised in that the electronic imaging device is a flatbed scanner.

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6. A method according to one or more of preceding claims 1-3, characterised in that the electronic imaging device is a digital camera.
7. A method according to one or more of claims 1-3, characterised in that the measurement of the calibration colours and the selected colour takes place simultaneously.
8. A method according to any of claims 1-3, characterised in that texture parameters can be calculated from the recording of the selected colour and that by using a databank the colour formula can be determined of which the texture parameters most closely match the calculated texture parameters of the measured selected colour.
9. A method according to claim 8, characterised in that a ruler is provided on the calibration pattern.
10. A method of determining a texture and/or colour formula for matching a selected colour and/or texture of a selected material in which
- a) the colour of the selected material is measured with a spectrophotometer or a tri-stimulus meter;
 - b) the texture of the selected material is measured with an electronic imaging device; and
 - c) the measured colour and texture data are used to determine, in a databank, the texture and/or colour formula of which the colorimetric data and the texture data most closely match those of the selected material.
11. A method according to any one of claims 1-3, 9 or 10, characterised in that the method is carried out in the car repair industry.

12. A method according to any one of claims 1-3, 9 or 10, characterised in that additional information is provided during recording of the selected colour with the electronic imaging device.

- 5 13. A method of determining the colour difference of a selected colour measured with an electronic imaging device compared to a standard colour sample, which method comprises the following steps:
- 10 a) an electronic imaging device is calibrated by measuring the colour signals of at least two calibration colours, the colorimetric data of each of the calibration colours being known;
- b) at the same time or in a next step the selected colour is measured with the aid of the electronic imaging device;
- 15 c) using a mathematical model, parameters are calculated for converting the measured colour signals of the calibration colours to the known colorimetric data;
- d) using the mathematical model and the calculated parameters, the colour signals of the measured selected colour are converted to colorimetric data; and
- 20 e) the colorimetric data of the selected colour are compared to the colorimetric data of a standard colour sample.

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